

FIBER-OPTIC TUNABLE FILTER AND INTENSITY MODULATOR

ABSTRACT OF THE DISCLOSURE

A fiber-optic tunable filter and an intensity modulator respectively includes: a fiber having a polished surface and an evanescent-field; and a photonic crystal having plural cavities and a filler filled therein and attached to the polished surface, wherein the plural cavities and the filler decide a photonic band-gap of the photonic crystal and the photonic band-gap is adjusted to reflect a light with a specific wavelength through the evanescent interaction with the photonic crystal material. Based on the fiber side-polishing technique, all kinds of fiber active and passive devices are able to be manufactured easily, especially for a high speed intensity modulator using an EO (Electro-Optic) polymer as the filler.